Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of:	)	
Misuse of Internet Protocol (IP) Captioned Telephone Service	)	CG Docket No. 13-24
Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities	)	CG Docket No. 03-123

Comments on Applications for Certification as Providers of ASR-Based IP CTS

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Summary

For many American consumers who are hard of hearing or deaf, IP CTS is the only service available that makes telephone calls possible. Without IP CTS, these consumers would face significant barriers to communicating with family and friends, using a phone in the workplace, or living independently.

Section 225 requires that IP CTS is functionally equivalent to standard phone calls. For the IP CTS experience to be functionally equivalent to telephone service, the Commission must create rigorous, technology-neutral mandatory minimum standards for quality. The Commission must also extend existing privacy standards to incorporate specific attributes of ASR-based systems—namely, how they store and process data. Additionally, the Commission should apply existing 911 connectivity requirements in a technology-neutral fashion.

If the Commission does not establish a new framework for evaluating IP CTS applications that accounts for ASR's critical differences, it should at least endeavor to apply the existing requirements for CA-based systems to applicants seeking certification for ASR-based service. In doing so, the Commission must insist on substantive information from applicants sufficient to evaluate their offerings' suitability for consumer use.

The applications for certification of Clarity, MachineGenius, and VTCSecure, which intend to provide ASR-based IP CTS offerings, seek tacit and formal waivers of many, if not all, the mandatory minimum standards that currently apply to human CAs. The ASR providers, which seek to largely eliminate CAs from the IP CTS process, assert to varying degrees that ASR can replace the role of CAs in existing IP CTS offerings.

While the Consumer Groups generally support the efforts of the Commission and of the ASR applicants to investigate and develop the use of ASR as a means of improving the efficiency and sustainability of the IP CTS program, formally or tacitly waiving the existing mandatory minimum standards for CAs would effectively undercut the quality, privacy, and safety values that IP CTS consumers should have the right to depend on from all providers. Doing so would potentially set back efforts by the Commission, the IP CTS industry, and consumers to raise the bar for quality on

a technology-neutral basis. Similarly, allowing vague and conclusory statements about compliance with 911 connection requirements and explanations of privacy practices leave consumers with little assurance that their needs will actually be met in the event of a life-threatening emergency or that their sensitive data will be protected.

Accordingly, we oppose certification because the applications do not provide sufficient information about quality, privacy, and 911 connectivity. Consumer Groups, like our members and other members of the public, seek to be fully informed about potential benefits and drawbacks of ASR-based IP CTS offerings. Members of the hard of hearing and deaf communities must rely on the Commission's certification and information supplied by the ASR applicants to ensure that ASR-based offerings will work for them, and the applications currently do not provide sufficient information to make reasoned judgements about the attributes of the proposed offerings.

Some privacy, quality, and 911 issues might be addressed in the confidential filings of the applicants. However, it is not reasonable to conceal critical details of a service's quality, privacy, and 911 connectivity dimensions, which are necessary bases for consumers to make decisions about whether to use a service. Without additional information, the Commission, applicants, and consumers will be unable to analyze and weigh tradeoffs and harms that may arise if the services do not provide high quality outputs, safeguards for user privacy, or sufficient 911 connectivity.

We urge the applicants to supplement and substantiate their claims in reply comments. We may change our view if applicants can demonstrate that their services will adequately protect consumers' rights to functionally equivalent communication. Toward that end, we have compiled a non-exhaustive list of proposed guiding questions, and seek non-conclusory statements supported by evidentiary findings.

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Discussion

The above-referenced Consumer Groups and accessibility researchers respectfully submit these comments in response to the Applications for Certification as Providers of ASR-based IP CTS and related filings of Clarity,[1] VTCSecure,[2] and MachineGenius,[3] each filed in the above-referenced dockets.[4] The Consumer Groups collectively advocate for equal access to communications, including

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[1] Clarity Internet-Based TRS Certification Application (June 5, 2019), https://www.fcc.gov/ecfs/filing/106050616085 37 (Clarity Application); Clarity iTRS Advisory Council Ex Parte (Sept. 17, 2019), https://www.fcc.gov/ecfs/filing/10917232487955; Clarity Ex Parte (Aug. 21, 2019), https://www.fcc.gov/ecfs/filing/10821139421107; Clarity Ex Parte (Aug. 7, 2019), https://www.fcc.gov/ecfs/filing/108071756015589; Clarity Ex Parte (Aug. 27, 2018), https://www.fcc.gov/ecfs/filing/10827050308412.

[2] VTCSecure Internet-Based TRS Certification Application (May 26, 2017) https://www.fcc.gov/ecfs/filing/10526309423109 (VTCSecure Application); VTCSecure Petition for Waiver (Sept. 13, 2019) https://www.fcc.gov/ecfs/filing/109130589901791 (VTCSecure Waiver); VTCSecure Ex Parte (Dec. 8, 2016), https://www.fcc.gov/ecfs/filing/1208541827375.

[3] MachineGenius Internet-Based TRS Certification Application (Oct. 13, 2017) https://www.fcc.gov/ecfs/filing/1014215719459 (MachineGenius Application); Machine Genius Petition for Waiver (Oct. 13, 2017)https://www.fcc.gov/ecfs/filing/1014215719459 (MachineGenius Waiver); MachineGenius Ex Parte (Nov. 8, 2018), https://www.fcc.gov/ecfs/filing/1108265158016; MachineGenius Notice of Inquiry Response (Oct. 17, 2018), https://www.fcc.gov/ecfs/filing/101766565511; MachineGenius Ex Parte (Sept. 10, 2018), https://www.fcc.gov/ecfs/filing/10910444317684; MachineGenius Opposition (Sept. 7, 2018) , https://www.fcc.gov/ecfs/filing/1090713125892; MachineGenius Letter (May 31, 2018), https://www.fcc.gov/ecfs/filing/105310073414557; MachineGenius Ex Parte (Feb. 5, 2018), https://www.fcc.gov/ecfs/filing/102062851919935; MachineGenius Ex Parte (Nov. 21, 2017), https://www.fcc.gov/ecfs/filing/1122657319916; MachineGenius Ex Parte (Dec. 4, 2017), https://www.fcc.gov/ecfs/filing/1205061046941.

[4] The Commission most recently addressed the issue of ASR-based offerings in the Declaratory Ruling portion of a multipart item on June 8, 2018. *Misuse of Internet Protocol (IP) Captioned Telephone Service*, Report and Order, Declaratory Ruling, Further Notice of Proposed Rulemaking, and Notice of Inquiry, 33 FCC Rcd 5800, 5827-36, ¶¶ 48-66 ("2018 Declaratory Ruling" / "2018 NOI"), https://www.fcc.gov/ecfs/filing/060819583365. In response to Consumer Groups' May 25, 2018 and July 26, 2018 ex parte filings, the Commission solicited public comment on the pending ASR-based IP CTS provider certification applications for public comment. https://www.fcc.gov/ecfs/filing/105252245210428 (May 25 Ex Parte); https://www.fcc.gov/ecfs/filing/107271021711657 (July 26 Ex Parte); MachineGenius Public Notice, https://www.fcc.gov/document/seeking-comment-machinegenius-application-provide-ip-cts; VTCSecure Public Notice,

the provision of IP CTS, for the more than 48 million Americans who are hard of hearing or deaf. The accessibility researchers work in conjunction with the Consumer Groups to address the technical challenges faced in securing access to communications by people who are hard of hearing or deaf.

Before evaluating the applications for IP CTS certification presented by Clarity, MachineGenius, and VTCSecure, the Commission must supplement its insufficient existing requirements with technology-neutral quality and 911 connectivity regulations and develop ASR-specific privacy regulations that ensure the service meets Section 225's standard of functional equivalence. If the Commission chooses not to ensure functional equivalency by producing a new set of technology-neutral requirements, it should at least apply the existing standards for human communication assistants ("CAs") to ASR technology. The Commission should also ask, and the applicants should answer, additional questions regarding the ASR-based offerings. This will allow the Commission and the public to properly evaluate the current applications. The Commission should reject the applications unless the applicants provide satisfactory answers to those questions.

I. The existing IP CTS application requirements are insufficient to assess the applicability of ASR technology.

Section 225 of the Communications Act of 1934, as amended by the Telecommunications Act of 1996, requires that telecommunications service providers furnish services for people who are hard of hearing or deaf that provide a "functionally equivalent" experience to that of the hearing community.[5] In order to encourage the development of "functionally equivalent" services, the

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https://www.fcc.gov/document/seeking-comment-vtcsecure-application-provide-ip-cts ; Clarity Public Notice, https://www.fcc.gov/document/seeking-comment-clarity-application-provide-ip-cts. This comment is intended to respond to all of the filings by the application as a whole, and should be considered as part of the record in the Commission's September 25 Public Notice seeking comment on VTCSecure's Sept. 25, 2019 Petition for Waiver and and any other public notices released on related filings. *See* https://fcc.gov/ecfs/filing/0925805609048.

[5] 47 U.S.C. § 225(a)(3).

Commission is required to produce regulations that set forth requirements, guidelines, and minimum standards.[6]

The Commission has provided regulations and minimum standards for quality, privacy, and 911 connectivity which specifically apply to CAs in IP CTS processes. However, the Commission has failed to produce rigorous technology-neutral regulations and standards that would guide the services of providers across the entire IP CTS ecosystem. This violates the mandate set forth in Section 225. To remedy this shortcoming, the Commission should:

1) Ideally, suspend review of applications to certify ASR-based offerings until it has established new technology-neutral standards for quality and 911 connectivity and new privacy standards that reflect the unique affordances of ASR-based offerings; or
2) At a minimum, pply the existing CA minimum standards to the ASR technology and require that the ASR IP CTS applicants answer detailed questions with substantive evidence and data to allow the Commission and the public to fully assess the quality, user privacy safeguards, and 911 connectivity of the ASR-based offerings.

A. The Commission has an obligation to establish regulations pertaining to IP CTS that ensure the service meets the functional equivalency standard.

Section 225 of the Communications Act of 1934, as amended by the Telecommunications Act of 1996, aims to make rapid and efficient nationwide and worldwide communication services available to everyone.[7] Specifically, Section 225 requires that common carriers "provide the ability for an individual who is deaf, hard of hearing, deaf-blind, or who has a speech disability to engage in communication by wire or radio with one or more individuals, in a manner that is functionally equivalent to the ability of a hearing individual who does not have a speech disability to communicate using voice communication services by wire or radio."[8] To foster the development and maintenance of functionally equivalent services and usages, the Commission has an obligation to

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[6] *Id.* at § 225(d).
[7] 47 U.S.C. § 151.
[8] 47 U.S.C. § 225(a)(3); 47 U.S.C. § 225(c)

produce regulations that, among other things, "establish functional requirements, guidelines, and operations procedures for telecommunications relay services [and]… establish minimum standards."[9]

The Commission has established corresponding requirements, guidelines, and minimum standards pertaining specifically to IP CTS providers that use re-voicing services of CAs.[10] The Commission requires IP CTS provider that applicants produce some relevant information including a description of technology and equipment used to support their functionality and disclosure of any ownership or leasing agreements that pertain to the technology.[11] In addition, all providers are required to produce a detailed description of how the company will meet all non-waived mandatory minimum standards.[12] The existing mandatory minimum standards are set forth in Rule 64.604.[13]

Many of these standards pertain specifically to the quality of business operations involving CAs.[14] These minimum CA standards concern training, typing, grammar, spelling, cultural familiarity, etiquette, and other details of relay calls.[15]

Rule 64.604 also details specific standards concerning confidentiality of conversation content which restrict CA behavior specifically.[16] These conversation confidentiality standards ensure that CAs do not disclose the content of conversations or store copies of the conversation beyond the duration of the call with an exception to allow temporary storage exclusively for use in immediately consecutive calls.[17]

The Commission also has specific requirements for 911 call completion set forth in Rule 64.605.[18] Under this section, providers must ensure that: emergency calls are answered before other

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[9] 47 U.S.C. § 225(d).
[10] *See* 47 C.F.R. §§ 64.604, 64.606.
[11] 47 C.F.R. § 64.606(a)(2)(ii)(4).
[12] 47 C.F.R. § 64.606(a)(2).
[13] 47 C.F.R. § 64.604.
[14] *See* 47 C.F.R. § 64.604(a)(1).
[15] *Id.*
[16] 47 C.F.R. § 64.604(a)(2).
[17] *Id.*
[18] 47 C.F.R. § 64.605.

calls, an emergency caller's name and location are gathered at the beginning of a call, and that there are procedures for prompt reconnection in the event that a call is disconnected unexpectedly, among other requirements.[19] However, the Commission has not produced any requirements, guidelines, and minimum standards pertaining specifically to IP CTS providers providing ASR-based offerings.

B. The Commission should revisit its framework for evaluating IP CTS applications to accommodate the unique affordances of ASR.

Ideally, the Commission would suspend review of ASR-based applications until it has revisited its framework for evaluating IP CTS applications to accommodate the unique affordances of ASR. In our July 26, 2018 ex parte filing, we suggested that the Commission should "require all applicants to demonstrate with substantial evidence that their offerings meet or exceed the usability of existing market offerings."[20] We also suggested that the Commission use "rigorous, scientifically valid product testing whose methodology and results are transparent, reproducible, publicly available, and based on uniform guidance from the Commission that can be applied in the same way to all platforms so that consumers can meaningfully conduct apples-to-apples comparisons of quality."[21]

So far, the Commission has declined to adopt any of these solutions. Instead, the Commission chose in its June 8, 2018 Declaratory Ruling to proceed with the evaluation of ASR applications without any clear basis upon which to conduct the evaluation.[22] We again urge the Commission to put the cart behind the horse and articulate a reasonable methodology for evaluating ASR-based solutions to ensure they meet the requirements of Section 225.

C. The Commission should at least endeavor to apply existing CA-specific standards to ASR-based applications.

However, if the Commission chooses to move forward without ASR regulations, it should at least evaluate the applications based upon the CA mandatory minimum standards and 911 rules.

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[19] *Id.*

[20] July Consumer Groups Ex Parte at 3.

[21] *Id.*

[22] 2018 Declaratory Ruling, 33 FCC Rcd. at 5827-36, ¶¶ 48-66.

These regulations, while not perfect or complete,[23] should serve as a bare minimum benchmark for ASR-based applications until new standards have been created. While ASR-based services operate differently from those using human CAs, the same priorities of quality, privacy, and 911 underlying the rules for the latter should underpin the operation of the former.

Rule 64.604 sets forth requirements for caption quality and consumer privacy.[24] Similarly, Rule 64.605 sets forth rules for 911 connectivity.[25] Both regulations aim to ensure that IP CTS is a functionally equivalent service with human CAs. Therefore, until the Commission establishes new technology-neutral regulations that incorporate the unique affordances of ASR, CA standards should apply to the current application process.

D. To apply the human CA standards to ASR-based services, the Commission should require applicants to provide detailed information on the record.

To apply the existing rules for CA-based services to ASR, the Commission should insist upon a substantial demonstration that an ASR-based service will provide a similar—or ideally better, given the persistence of quality problems with CA-based service—experience for consumers. Caption quality, consumer privacy, and 911 connectivity are all significant consumer concerns that cannot be evaluated on the basis of conclusory or vague statements. Therefore, the Commission should ask pointed questions related to these three areas to better evaluate the applicants.

To assist the Commission, the pubic, and ASR applicants in the evaluation process, we have developed a non-exclusive and non-exhaustive list of questions:

Business model of the company:

1. Do you use a third-party vendor for ASR technology?
    a. If yes, what is the name of the vendor?
    b. How do you ensure that your vendor adheres to privacy, quality, and 911 standards?

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[23] *See* 2018 NOI, 33 FCC Rcd. at 5868-75, ¶¶ 161-63 (soliciting comment on IP CTS performance measures).

[24] 47 C.F.R. § 64.604.

[25] 47 C.F.R. § 64.605.

Quality:

1. What is your testing methodology?
2. What are your quality metrics?
3. Who tested your service or technology?
4. What testing conditions were used?
    a. How do those conditions relate to and differ from real-world usage?
    b. How does that affect quality?
5. When did the testing take place?
    a. Were there multiple tests?
6. What type of language was tested?
    a. Compound or complex sentence structures?
    b. Slang?
    c. Words that sound similar? (i.e. clause, close, clothes, cloths)
    d. Can the product handle specialized or technical language?
    e. Did you test different accents and conversational speaking styles?
7. How did the testing of your ASR product compare to typical CA-based IP CTS offerings?
8. If the product is still in development,[26] when will it be ready?
9. What are your plans for improving the product?
10. What are the mechanisms in place for customer feedback?

Privacy:

1. What are your data collection mechanisms?
2. What data about the call and the callers are being stored?
3. Are representations of the conversation stored?
4. Is the metadata about the call stored?
5. If yes, where is this information stored?
6. If yes, for how long is this information stored?
7. Is any of this information shared with third parties?
8. Is any of this information shared with your vendor, if applicable?
9. How do you mitigate the tension between improving the machine learning and upholding caller privacy?
10. Are you notifying your consumers of what you are doing with their data? If so, how?

911 Connectivity

1. How, generally, does your application handle 911 calls?
2. How do you handle 911 call completion?
3. How do you handle 911 disconnects?
4. How do you ensure that the 911 call center is able to call the consumer back in the case of a dropped call?
5. What assurance does the caller have that the call will reach the appropriate public safety answering point (PSAP)?

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[26] *See* VTCSecure Application at 6.

II. The current ASR applications do not demonstrate sufficiently functional equivalence under Section 225.

The current versions of the applications to provide ASR-based offerings do not provide the public and the Commission with sufficient information regarding quality, privacy, and 911 connectivity. Rather than relying on conclusory statements, the companies should provide additional substantive evidence and data about the operations of their services. Absent more forthcoming information, the Commission should deny the current applications.

A. The ASR applicants should provide the public and the Commission with substantive information supported by evidentiary findings and not conclusory statements.

The Commission and the public need substantial evidence that ASR technology will live up to the promises made by the applicants. Unfortunately, the current applications from the ASR providers do not contain enough information to evaluate whether the end product will be adequate to serve the needs of consumers.

As a threshold matter, potentially important sections of all the applications are redacted.[27] Concerns motivating these redactions do not preclude the applicants from sharing relevant information about how they have arrived at the conclusion that their offerings are sufficient for widespread consumer use. For example, MachineGenius does not explain how it measured the accuracy of its system, instead stating simply that the quality of its ASR technology will be "comparable to the accuracy provided by CAs."[28] Beyond this conclusory statement, all information relating to captioning accuracy and quality is redacted and labeled confidential.[29]

It is not reasonable for applicants to omit details about their offerings that are critical for consumers to evaluate whether the offerings will suit their needs. Marketing pitches are not enough. Applicants must provide specific details, rigorous evidence, and verifiable data on the public record about how their offerings will meet the promises they are making to the Commission and the public.

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[27] *E.g.*, MachineGenius Application at 7, 10, 13, 16; VTCSecure Application at 3-4, 5-6; Clarity Application at 5, 13.

[28] MachineGenius Application at 7.

[29] *Id.*

B. The Commission should not grant formal or tacit waivers of the existing IP CTS rules to ASR-based applicants.

The IP CTS provider certification applications presented by VTCSecure,[30] MachineGenius,[31] and Clarity[32] set forth procedures involving ASR that require minimal or no CA involvement. The applicants claim that their offerings will easily meet the minimum standards established within Rule 64.604, but in numerous instances request formal or effective waivers of those standards.[33]

If the applicants cannot transparently demonstrate through substantial evidence that they can meet the existing standards, then they likely cannot. The Commission cannot draw conclusions without independently evaluating their claims and testing their products to ensure they live up to their promises. Because the current applications from the ASR applicants do not adequately address quality, privacy, and 911 connectivity, the Commission should deny all three of the applications unless more information is forthcoming.

C. Each of the three companies' current applications fail to provide acceptable information regarding the quality of their offerings.

VTCSecure. The VTCSecure application includes several conclusory statements regarding the quality of its offering. First, it states that "under ideal conditions, VTCSecure has seen over 99% accuracy in situations where there is no [CA] and the ASR engine is receiving HD voice."[34] It also notes that "advancements in ASR allow it to be extremely accurate and almost on par with human speech recognition."[35] Further, the application includes that "VTCSecure has tested [its product] with hard of hearing users and many very much preferred the speed of ASR over traditional IP

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[30] VTCSecure Application at 4.
[31] MachineGenius Application at 5-8.
[32] Clarity Application at C-1.
[33] VTCSecure Waiver at 2; MachineGenius Waiver at 2; Clarity Application at 15-19.
[34] VTCSecure Application at 2.
[35] *Id.* at 3, n. 4 (citing Srini Penchikala, *Using Deep Learning Technologies IBM Reaches a New Milestone in Speech Recognition*, INFOQ (March 31, 2017), https://www.infoq.com/news/2017/03/ibm-speech-recognition/).

CTS."[36] Moreover, the company claims that "the use of ASR technology allows for the potential elimination of the CA for a [sic] IP CTS calls in perfect conditions."[37]

These conclusory quality statements highlight the insufficiency of the VTCSecure application. Because most of the real-world use by consumers will be outside the four walls of "ideal conditions,"[38] VTCSecure must provide some substantiating data about the accuracy of ASR in day-to-day conditions. If practical application data is not available to the company, then it should at least provide the public with detailed information about how the ideal conditions under which it conducts testing may differ from daily usage.

In addition to disclosing the ideal conditions, the company should provide evidence about the internal testing that resulted in "over 99% accuracy."[39] What are the metrics for accuracy? What form, content, and use of language was utilized in the testing? How did the testing methodology compare to everyday conversational speech? How much of that accuracy rate is attributed to the "ideal conditions?"[40] Moreover, how does the listed accuracy rate compare to the CA-based accuracy rates? If those metrics are based on HD voice use, how will VTCSecure's ASR engine get access to HD voice in the context of real calls?

Similarly, the application's statements about ASR technology's general advancement does not offer any specific information that helps the Commission or consumer evaluate VTCSecure's actual offering. Is the VTCSecure product "extremely accurate and almost on par with human speech recognition," or is that merely describing the potential of the technology?[41]

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[36] VTCSecure Application at 3.
[37] *Id.* at 4.
[38] For example, it is not clear to us that there is any current scenario under which VTCSecure's ASR engine could receive HD voice given the lack of interconnections between wireless carriers and third-party providers.
[39] VTCSecure Application at 2.
[40] For a comprehensive list of questions, see discussion *supra* at I.D.
[41] VTCSecure Application at 3.

Even if VTCSecure's offering is comparable to human speech recognition, the application does not make clear how VTCSecure drew that conclusion. Without more, no meaningful conclusion can be drawn about how ASR holds up against current offerings. Even if ASR is cheaper and "faster," it will be useless if it cannot consistently serve as an effective communication tool for those who rely upon it.

Finally, the conclusory statements regarding testing subjects' preference of speed of ASR over CA speed is not indicative of which product they actually prefer. Indeed, some users would likely prefer a slower but more accurate product over a real-time inaccurate product.[42]

MachineGenius. MachineGenius's current application has many shortcomings similar to those of VTCSecure's application, including vague contentions about the performance of the MachineGenius offering. MachineGenius notes that "recent advances in Automated Speech Recognition ("ASR") technology have enabled a fully-automated approach to delivering high-quality, low latency IP CTS captions."[43] It notes that the offering has "highly accurate transcription and captioning."[44] Further, it states that "ASR is approaching human-level transcription of open-content conversation, and scalable, cost-efficient solutions are now commercially available."[45] The application presumably expands on this in an exhibit, but it is redacted.[46] Moreover, it claims that MachineGenius's "ASR captioning accuracy is comparable to the accuracy provided by CAs."[47] Finally, the application states that ASR enables "efficient conversation and overall improved user experience" because "captions are delivered in real-time."[48]

As with the conclusory statements in the other applications, MachineGenius's contention of "high-quality, low latency" captioning is not backed up by quantifiable metrics or data the public can

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[42] *See* Hamilton Relay Ex Parte (Dec. 19, 2018), https://www.fcc.gov/ecfs/filing/1220896814220.
[43] MachineGenius Application at 7.
[44] *Id.* at 9.
[45] *Id.* at 7.
[46] *Id.* at 9 & n. 11.
[47] *Id.* at 7.
[48] *Id.* at 8.

review.[49] Moreover, the statement regarding quality refers to ASR generally rather than MachineGenius's specific product. It is not sufficient to simply contend that the offering includes "highly accurate" captions; MachineGenius must provide more information about what that means. What was the testing methodology? Is the accuracy measured in real-time? Especially given MachineGenius's request to waive out of CA requirements, the company should explain in detail how their ASR product will be functionally equivalent.

Clarity. The Clarity application likewise offers similar conclusions about quality with little supporting evidence. Clarity states that "internal testing" yielded a "very high level of accuracy."[50] Clarity states that the same testing also showed "a very quick response."[51] Further, the application notes that the product "competes well against traditional TRS solutions in accuracy of transcription."[52] According to Clarity, the ASR solution offers faster transcription, "in very close to real time" using "contextual clues to correct itself" to improve accuracy.[53] Clarity states that the product will work "effectively and consistently."[54] Moreover, the Clarity application notes that ASR will not fatigue or require breaks in the same way that CAs do.[55] In addition, Clarity collects feedback from callers, and notes that it will share users' satisfaction ratings with the Commission.[56]

A conclusory contention that captions are highly accurate provides no basis for the Commission or the public to evaluate the quality of the service. Indeed, a "very quick response" is only one facet of quality. Merely offering "faster transcription" than traditional TRS solutions does not capture a holistic picture of the overall quality of the service, which includes dimensions such as accuracy in real time, grammatical nuances, and overall user experience that is functionally

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[49] *Id.* at 7.
[50] Clarity Application at 6.
[51] *Id.*
[52] *Id.*
[53] *Id.*
[54] *Id.* at 7.
[55] *Id.*
[56] *Id.* at 5-6.

equivalent.[57] Contending that an ASR-based offering "competes well" against CA-based solutions also fails to address these holistic quality issues in a meaningful way.[58] *How* well does the offering compete against traditional IP CTS solutions? What metrics underlie this conclusion? What are some of the drawbacks of ASR compared to CAs?

Moreover, Clarity's statement regarding ASR's endurance relative to the CAs provides little meaningful information about the quality of the offering.[59] The ability of an ASR solution to outperform a fatigued human CA does not demonstrate that it works at a sufficient level of quality.

Finally, the fact that Clarity will share feedback ratings with the Commission does not guarantee that the company will take measures to improve the product based on that feedback. The Commission should require information regarding the company's plans for implementing product development.

D. The applications do not contain sufficient information regarding the applicants' approaches to the privacy of user data.

VTCSecure. VTCSecure simply does not address privacy concerns related to the use of ASR technology in the public version of its application and should be denied on those grounds alone.[60]

MachineGenius. As with quality, MachineGenius's application offers little more than vague or conclusory language about privacy, including how data is collected, used, and retained. It states that "users should rest assured that no third-party CA is listening to their calls."[61] It also states that call content is "subject to the Company's privacy policy, as well as the Company's ASR vendor's privacy policy."[62]

That a CA is not listening in on the call is self-evident for an offering that is exclusively using ASR technology. That fact provides no information about how a user's private information is

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[57] 47 U.S.C. § 225(a)(3); Clarity Application at 6.
[58] Clarity Application at 6.
[59] *Id.* at 7.
[60] *See* VTCSecure Application.
[61] MachineGenius Application, *supra* note 4, at 9.
[62] *Id.*

electronically collected, used, and retained by MachineGenius. The absence of a third-party CA on the call does not necessarily ensure that an ASR-based product is more private than a CA-based offering.

Moreover, neither of the privacy policies referenced in the application are provided to the public. In fact, both are labelled as confidential or redacted. While it may be true that user data, including the content of calls, is subject to a robust privacy policy, consumers have no way of verifying this without being able to review the policy.

Clarity. Clarity's application seems to contemplate a limited scope of "privacy." Like MachineGenius, Clarity simply concludes that the use of ASR instead of a human CA will render conversations more private.[63] Further, in an ex parte filing Clarity notes simply that its offering "provides improved privacy."[64]

Generally speaking, the contentions from the ASR applicants on privacy ignore a significant problem: replacing a human CA with an automated method of processing call data does not inherently make an offering more private. Rather, using ASR simply raises new privacy concerns that are different from those that arise with CA-based services. With a human re-voicing a call, the concern is that the human will disseminate the information. But in an ASR offering, call data must be stored and processed on a server, where it may be sold, misused, or breached. As a result, merely noting that an ASR-based offering "provides improved privacy" or noting that a privacy policy *exists* is insufficient.[65] With such limited information, the public is not equipped to make an informed decision about trusting sensitive information to a provider.

E. The applications do not contain sufficient information regarding the applicants' approaches to 911 connectivity.

The ASR-based applications are similarly vague when describing their proposed offerings' adherence to the Commission's requirements for 911 connectivity. The technical requirements under

[63] Clarity Application at 6 ("There is no person listening to the call, thus making the calls much more private than traditional TRS technology.")
[64] Clarity iTRS Advisory Council Ex Parte at 1.
[65] MachineGenius Application at 9.

Rule 64.605 are complex, and it is not clear based on the vague information provided in the applications that the offerings meet the existing standards or how they do so. 911 calls routinely arise under life and death circumstances. This underscores the need for reliable connectivity, as well as the utmost accuracy and speed, in the context of 911 calls. Therefore, we urge the Commission to carefully review the 911 connectivity sections of all of the applications.[66]

VTCSecure. VTCSecure states in its application only that "steps are taken to reestablish contact" when a 911 call is dropped on its system.[67] In order to assure that this offering is safe to use, VTCSecure must provide more information than a vague mention of "steps."

MachineGenius. MachineGenius merely notes that its power source is "uninterruptible."[68] It also notes in conclusory fashion that it will comply with the Commission's 911 rules.[69] It appears that there is some information in the application alluding to emergency calling, but that information is redacted.[70] More information is necessary to provide the public with a complete picture of how the offering will ensure the safety of MachineGenius's customers in emergencies.

Clarity. Clarity's emergency call handling is similarly vague. Clarity users must either "grant access to location information on their [mobile] devices" or decline this access and have their default emergency location set in one location.[71] Further, the company requests a waiver of 64.605(a)(2)(ii) and (iii) requirements.[72] Like the other applicants, Clarity must provide the public with more information about specifics of its 911 connectivity plan.

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[66] 47 C.F.R. § 64.605.
[67] VTCSecure Application at 15.
[68] MachineGenius Application at 16.
[69] *Id.*
[70] *Id.*
[71] Clarity Application at 18.
[72] *Id.*

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We look forward to the possibility of ASR improving the efficiency of IP CTS offerings. However, we urge the Commission to refrain from accepting the ASR applications until the public can assess the quality, privacy, and 911 connectivity in a meaningful way. Absent standards with which to judge the new technology, the Commission will be proceeding based solely on applicant promises. We urge the Commission to halt the current application process until new technology-neutral regulations encompassing ASR are established. In the alternative, the Commission should apply the existing CA framework to the new ASR applications. At the bare minimum, the FCC should require applicants to answer more detailed questions about their ASR offerings. This will ensure that IP CTS provides a functionally equivalent service for consumers.

Certificate of Service

I, Blake Reid, do hereby certify that a copy of the foregoing filing was served on September 25, 2019 via e-mail to:

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